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United States Patent [19]**Norfleet et al.**[11] **Patent Number:** **5,503,823**[45] **Date of Patent:** **Apr. 2, 1996**[54] **DESENSITIZING ANTI-TARTAR
DENTIFRICE**[75] Inventors: **James Norfleet**, Plainfield; **Willie J. Carter**, Belle Mead; **Matthew J. Frankel**, Franklin Park; **Abdul Gaffar**, Princeton, all of N.J.[73] Assignee: **Colgate Palmolive Company**,
Piscataway, N.J.[21] Appl. No.: **265,883**[22] Filed: **Jun. 27, 1994****Related U.S. Application Data**

[63] Continuation of Ser. No. 71,384, Jun. 4, 1993, Pat. No. 5,352,439, which is a continuation of Ser. No. 778,532, Oct. 17, 1991, Pat. No. 5,240,697.

[51] **Int. Cl.⁶** **A61K 7/16; A61K 7/18**[52] **U.S. Cl.** **424/52; 424/49; 424/57**[58] **Field of Search** **424/49-58**[56] **References Cited****U.S. PATENT DOCUMENTS**

3,863,006	1/1975	Hodosh	424/49
4,057,621	11/1977	Pashley et al.	424/49
4,283,385	8/1981	Dhabhar et al.	424/52
4,357,318	11/1982	Shah et al.	424/52
4,631,185	12/1986	Kim	424/49
4,645,662	2/1987	Nakashima et al.	424/52
4,751,072	6/1988	Kim	424/49
4,806,340	2/1989	Gaffar et al.	424/52
4,889,712	12/1989	Gaffar et al.	424/52
4,894,220	1/1990	Nabi et al.	424/52
4,925,654	5/1990	Gaffar et al.	424/52
4,931,273	6/1990	Gaffar et al.	424/52
4,933,171	6/1990	Bristow et al.	424/49
4,992,258	2/1991	Mason	424/49
5,015,466	5/1991	Parran et al.	424/52
5,015,467	5/1991	Smitherman	424/52
5,037,635	8/1991	Nabi et al.	424/52
5,087,444	2/1992	Jackson et al.	424/52

5,156,835	10/1992	Nabi et al.	424/52
5,180,578	1/1993	Gaffar et al.	424/52
5,188,820	2/1993	Cummins et al.	424/52
5,234,688	8/1993	Gaffar et al.	424/52
5,240,697	8/1993	Norfleet et al.	424/52
5,252,577	10/1993	Breuer et al.	424/49
5,256,402	10/1993	Prencipe et al.	424/53
5,260,062	11/1993	Gaffar et al.	424/52
5,268,167	12/1993	Tung	424/52
5,270,031	12/1993	Lim et al.	424/49
5,292,526	3/1994	Gaffar et al.	424/52
5,334,375	8/1994	Nabi et al.	424/52
5,352,439	10/1994	Norfleet et al.	424/52
5,374,417	12/1994	Norfleet et al.	424/52

Primary Examiner—Shep K. Rose*Attorney, Agent, or Firm*—Robert L. Stone; Robert C. Sullivan[57] **ABSTRACT**

An oral composition, such as a toothpaste, includes an anti-tartar proportion of a polyphosphate anti-tartar agent (preferably with synthetic anionic polymeric polycarboxylate or equivalent, and fluoride) and a desensitizing proportion of a tooth pain inhibiting potassium salt which passes through exposed dentin tubules to tooth nerves or neurons, which salt can be potassium nitrate, potassium citrate or potassium oxalate, so that it helps to prevent tartar from forming on the teeth and also lessens any pain experienced by persons contacting their sensitive teeth with the oral composition. Preferably the oral composition is a desensitizing anti-tartar toothpaste or gel which, when the teeth are brushed with it, aids in removal of at least some tartar and prevents its reappearance, and at the same time diminishes any tooth pain that the brusher would otherwise experience due to such brushing. In preferred toothpastes the anti-tartar agent and the desensitizing agent are both potassium compounds and other components of the toothpaste, such as the detergent or surfactant, thickener, water soluble fluoride, anionic polymeric polycarboxylate, sweetener and any anti-calculus agent present, when they may be present as salts, will also be potassium salts.

14 Claims, No Drawings